

ABSTRACT OF THE DISCLOSURE

An A/C-D/C-F/C power system is provided that includes a portable power unit that can accept electricity from a number of alternative sources including an AC power source, a DC power source, a battery, and a direct oxidation fuel cell. In accordance with 5 one embodiment of the invention, the fuel cell is used to either recharge a battery, or to power an application device, when the AC source and/or the DC source are unavailable. The A/C-D/C-F/C system of the present invention also includes signal processing and signal conditioning circuitry in a power combiner and conditioner, which condition the voltage signal to deliver power to the application device in a manner that is consistent 10 with device requirements.